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PROBABLE DEVELOPMENTS WITHIN THE EUROPEAN SATELLITES, THROUGH MID-1955

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PROBABLE DEVELOPMENTS WITHIN THE EUROPEAN SATELLITES, THROUGH MID-1955[1]

THE PROBLEM

To estimate: (a) the present and probable future extent of Soviet control over the Satellites, and (b) probable developments within the Satellites.

ASSUMPTION

That there will not be general war within the period of this estimate.

CONCLUSIONS

1. Control of the Satellites has in effect advanced the frontiers of the USSR roughly 500 miles westward in Central Europe and has established for the USSR a buffer zone now garrisoned by an estimated 538,000 Soviet troops, organized into 30 divisions, and 1,317,000 Satellite troops. In addition, the area provides ample advanced air bases, space for a forward air defense system, and naval bases.

2. Soviet control over the Satellites is virtually complete and is unlikely to diminish or to be successfully challenged from within during the period of this estimate. Even if a struggle for power should break out within the Soviet ruling group, the struggle would probably be carried on within the higher echelons of the Soviet Communist Party, and would not significantly affect Soviet control over the Satellites. However, if the struggle within the Party should spread to the Soviet Army and the Soviet Security Forces and should lead to open conflicts within or between the forces, the stability of the Soviet regime and Soviet control over the Satellites would be shaken.

3. Although the majority of the Satellite population is and will remain discontented with the regimes, organized opposition has been virtually eradicated. The regimes will not be able to eliminate passive resistance and sabotage, nor to isolate their populations completely from Western information, but these factors will not seriously affect Soviet control over the Satellites.

4. The Satellites now supply about two-thirds of the Bloc's uranium ores and concentrates; East Germany alone accounts for about 40 percent of total Bloc

[1] As used in this paper, the term "Satellites" means "European Satellites" and includes East Germany, Poland, Czechoslovakia, Albania, Hungary, Rumania, and Bulgaria.

supply. They also supply large quantities of raw materials and industrial goods, notably petroleum products, industrial chemicals, certain non-ferrous metals, and engineering equipment. The productive capabilities of the Satellites constitute an important addition to Soviet economic strength and war potential.

5. The Satellites have obtained from the West and from the Far East materials and equipment which contribute to the Bloc war potential. About half of officially reported East-West trade is conducted on the Bloc side by the Satellites. The location of the Satellites and the partition of Germany and Austria facilitate clandestine trade with the West.

6. By the end of 1951, the gross national product of the Satellites as a whole had returned approximately to the level of 1938. During the period of this estimate, the average annual rate of growth of the gross national product for the Satellites as a whole will probably be about 5 percent. Emphasis will continue to be placed upon expanding the heavy industries. Satellite industrialization will continue to be hampered by deficiencies in skilled labor and competent management, in raw materials, and in capital equipment. The industrial capacity and general economic strength of the Satellites will remain low in comparison with those of Western Europe.

7. The Satellite ground forces are now estimated to number 1,317,000 men, organized into approximately 74 divisions. The armies are supplemented by militarized security forces which total about 266,000 men. The Satellite ground forces are improving in quality and have expanded in strength steadily since 1947. We estimate that they will be stabilized at a strength of approximately 1,750,000 by the end of 1954.

8. The Satellite Air Forces are capable of providing a limited defense by fighter interception and ground attack. Modernization by re-equipping the units with jet fighters has progressed at a quickened pace and probably will be completed within the period of this estimate. A few jet light bombers have been introduced into the Polish Air Force and during the period of this estimate some of the other Satellite Air Forces may be similarly equipped. Almost all operational type aircraft and parts for their logistical support are furnished the Satellites by the USSR.

9. The Satellite Naval Forces have only minor capabilities. Small numbers of Soviet ships, notably mine and escort types, have been turned over to the Satellite navies, apparently to be used as auxiliary forces to the Soviet Navy. By mid-1955, the Satellite navies will probably be capable of providing appreciable assistance to the Soviet Navy in such fields as minesweeping, minelaying, escort, and coastal defense duties.

10. Because of deficiencies in equipment, loyalty, and morale, the Satellite armed forces as such do not now possess the capabilities which their size would appear to indicate. However, they are already a significant factor in the European military situation. If they continue to advance along the lines projected by the Kremlin, they will form a substantial addition to Soviet military strength in Europe and will offset, at least in part, the growth of Western strength in Europe.

DISCUSSION

SOVIET CONTROL

Degree of Control

11. Soviet control over the Satellites is virtually complete. It ensures the subservience and reliability of the Satellite governments and continued Soviet economic and military benefit from the area.

12. The Kremlin has decapitated and pulverized the old political parties and opposition groups in the Satellites. Although a vast majority of the Satellite population is discontented with the regimes, and this resentment may be intensified, it will remain unorganized and practically impotent. Underground resistance groups have survived only as scattered remnants in a few areas, and are now generally inactive.

13. The Communist hierarchies in the Satellites have been purged of practically all individuals and groups distrusted by the Kremlin. However, "cleansing" of Communist regimes is a perpetual process. There will continue to be purges within the Communist parties, governments, armies, and police forces of the Satellites to insure the reliability and effectiveness of the Satellite regimes as instruments of the Kremlin.

14. Soviet control over the Satellites is unlikely to diminish or to be successfully challenged from within during the period of this estimate. Even if a struggle for power should break out within the Soviet ruling group, the struggle would probably be carried on within the higher echelons of the Soviet Communist Party, and would not significantly affect Soviet control over the Satellites. However, if the struggle within the Party should spread to the Soviet Army and the Soviet Security Forces and should lead to open conflicts within or between these forces, the stability of the Soviet regime and Soviet control over the Satellites would be shaken.

Instruments and Techniques of Soviet Control

15. The primary instruments of Soviet control over the Satellites are the Satellite governments and Communist parties. In addition, the Kremlin uses the Cominform to help establish a uniform political and propaganda line. Although the Kremlin permits and encourages programs of cultural, economic, and technical collaboration among the Satellites, it appears determined to bind the Satellites individually to the USSR rather than to unify them. However, the USSR almost certainly will not incorporate any of the Satellite states directly into the USSR, at least within the period of this estimate.

16. Nationalization and direct operation by the governments of the vital industrial and commercial sectors of the Satellite economies simplify Soviet control. Soviet authority over these economies is exercised in addition through trade and financial agreements to implement specific production schedules, the use of Soviet advisers in key positions throughout the economy, joint companies (notably in Rumania and Hungary) and the Council of Economic Mutual Assistance (CEMA), which functions as an effective instrument both of control and of "joint planning."

17. The police and security forces of each of the Satellites are large, carefully selected, and well trained. In each Satellite they have adopted the Soviet scheme of organization. They are infiltrated and often directed by experienced Soviet personnel.

18. Large Soviet military missions are supervising the reorganization of the Satellite armed forces, which are adopting standard Soviet methods, doctrine, organization, and equipment. Soviet commanders, advisers, and technicians are located in key command and staff positions in the military forces and in the defense ministries. The creation of a politically reliable officer corps is well advanced. The Satellite forces will remain dependent upon the USSR for most of their aircraft, tanks, and heavy artillery.

19. Rigorous training and education programs, intensive Communist indoctrination of selected segments of the population, and

favored treatment of some groups will almost certainly increase the number of supporters of the Satellite regimes. Calculated use of terror creates hopelessness, physical and moral fear, and a sense of isolation. Throughout the Satellites, severe security measures have reduced personal contact of the population with representatives of the West to the vanishing point. Frontier controls have drastically reduced the possibility for escape, except for the present gap in Berlin. However, the Kremlin will almost certainly not be able within the period of this estimate to isolate completely the population of the Satellites from Western information.

20. The ultimate basis of Soviet control is Soviet military domination of these countries. We estimate that the Soviet forces stationed within the Satellites and in the Soviet Zone of Austria in April 1953 consisted of 538,000 from the Soviet Army (including military missions), 24,000 security troops, and approximately 2,400 Soviet-manned aircraft (actual strength).[2]

Troublesome Factors

21. A number of factors remain which will constitute irritations for the Kremlin in Eastern Europe, but which will not jeopardize Soviet authority. Certain of these derive from the history of this area: nationalism, the traditional hatred of Russia (except in Czechoslovakia and Bulgaria), western cultural traditions, religion, territorial conflicts among the Satellites, and ethnic or religious minorities within the Satellites. Others are direct products of Soviet control: the imposition of the Soviet system and of Soviet culture, Soviet economic exploitation of the area, and the decline of the standard of living in most areas and for most classes. The Kremlin in the past has been so ruthless and effective in coping with the unrest resulting from these factors and in discovering and obliterating hostile forces that none of these factors is expected to develop into more than a nuisance or an impediment to the Communist program within the period of this estimate.

22. Collectivization of agriculture is a problem still facing the USSR and the Satellite regimes. The extent and the tempo of collectivization vary from Satellite to Satellite. We believe that collectivization will be increased gradually throughout the Satellites during the period of this estimate. In the unlikely event that the new Soviet rulers should adopt a policy of rapid collectivization of agriculture, peasant resistance would increase and agricultural production in the Satellites would decline for some time. However, even rapid collectivization of agriculture would probably not seriously shake Soviet control.

SATELLITE CONTRIBUTION TO BLOC STRENGTH: ECONOMIC[3]

Long-Term Program

23. During the first years after the conclusion of hostilities, the USSR ruthlessly extracted from Eastern Europe the immediately obtainable economic benefits. The means used included outright requisition of materials and equipment and the imposition of bilateral trade pacts on terms advantageous to the USSR. While this policy of exploitation was being pursued by the USSR, the Satellite states were themselves endeavoring to recover from the wartime damage inflicted upon their economies.

24. The economic programs both of the USSR with respect to the Satellites and of the Satellite regimes themselves began to change late in 1948. New programs provided for the carefully planned industrialization of the Satellite countries and their integration into the Soviet economic system. Main emphasis was placed upon expansion of productive capacity, especially of the mining, metallurgical, and engineering industries.

[2] For further detail concerning Soviet forces stationed within the Satellites, see Appendix A.

[3] These estimates of Satellite economic developments are based upon extrapolation of past Satellite trends and upon a critical appraisal of published Satellite economic data. It is impossible to estimate whether the political developments following the death of Stalin will change or disrupt these trends and plans.

25. This long-range program was designed in such a way that the industrial base and military readiness of the Satellite countries should advance simultaneously. After the outbreak of the Korean war, the emphasis of this program was shifted in the direction of a more rapid development of heavy engineering and armaments-serving industries. While the Satellites are thus in a progressively advancing state of preparedness, there is no indication that the program envisages the outbreak of hostilities at any particular time, or that the long-term plan for economic development is being further modified to achieve greater immediate war-readiness.

26. Behind the facade of the Council of Economic Mutual Assistance, in which all Satellites theoretically operate as equals, and through its other instruments of control, the Kremlin directs the allocation of raw materials, capital equipment, and foreign exchange among the Satellites, and arranges specialization and division of labor. The USSR provides some of the raw materials and capital goods necessary for the industrialization of the Satellites, but the industries developed are those which can contribute most to the military potential of the Bloc. The Satellites have thus been forced into a pattern of production and trade subservient to the interests of the USSR.

Principal Economic Contributions

27. Throughout the period of this estimate, the Satellites (except Albania) will continue to contribute substantially to the economic strength of the Bloc, particularly with respect to the following: [1]

a. Uranium ores. We estimate that the Satellites in 1952 supplied about two-thirds of the Soviet Bloc's uranium ores and concentrates, with Eastern Germany accounting for about 40 percent of total Bloc supply, Czechoslovakia about 15 percent, and Bulgaria, Poland, and Hungary about 8 percent.

b. Heavy industrial products. Some Satellite products requiring highly skilled labor (steam locomotives, railway passenger and freight cars, automobiles, merchant ships, and machine tools) constitute an important contribution to the strength of the Bloc. Satellite output of these items will probably continue throughout the period of this estimate to account for a substantial proportion of Bloc production, varying among specific items from 20 to 40 percent.

c. Petroleum. In 1952 the Satellites produced approximately 20 percent of the Bloc's production of crude petroleum, over two-thirds of which came from Rumania. About 80 percent of the Bloc's output of synthetic liquid fuels is derived from the Satellites, principally East Germany (synthetic products account for about 4 percent of Bloc synthetic and natural petroleum production). Of the total Satellite output of petroleum products, from both natural and synthetic production, about 40 percent is exported to the USSR. During the period of this estimate the proportion of Bloc production of crude petroleum and synthetic liquid fuels furnished by the Satellites will decline somewhat in view of the probable greater rate of increase of production in the USSR.

d. Chemicals. The chemical industries in the Satellite area make an important direct contribution to the Bloc's war potential. The chemicals of which Satellite production in 1952 is significant in relation to Bloc output as a whole include synthetic ammonia, chlorine, calcium carbide, caustic soda, sulphuric acid, benzol, and toluol. East Germany and Poland are the most important Satellite producers of chemicals.

e. Other products. Satellite production of steel in 1952 amounted to about one-fifth of total Bloc production. The Satellites are important contributors of lead (35 percent of the Bloc's production); zinc (49 percent); and bauxite (66 percent). The Satellites also produce about three-fourths of the Bloc's output of rayon and one-third of the Bloc's output of cement.

28. The scientific and technical assets of Eastern Germany and Czechoslovakia, and to

[1] Appendix B compares Satellite, Soviet, and total Bloc production in 1952 and 1955 of various selected raw materials and manufactured equipment.

a lesser extent of Poland and Hungary, constitute a substantial addition to those of the USSR. The contributions of Satellite scientists and technicians, especially in electronics, optics, instrument development, and pharmaceuticals, are of great value to the Soviet economy.

29. The Satellites have obtained from the West and from the Far East materials and equipment which contribute to the Bloc war potential. About half of officially reported East-West trade is conducted on the Bloc side by the Satellites. Their established trade connections with the West and their ability to supply coal, grains, and some other goods greatly needed in Western Europe, have encouraged the continuance of this trade, even though Western controls over the export of strategic commodities have reduced it by 20 percent since 1951. The location of the Satellites and the partition of Germany and Austria facilitate clandestine trade with the West.

Limitations on the Development of the Satellite Economies

30. Certain deficiencies in the Satellite countries constitute important limiting factors in the development of the Satellite economies and in Soviet plans for the Satellites:

a. The planned expansion of industry requires a larger supply of skilled labor and management than will be available. Although the non-agricultural labor force will increase because of growth of population, recruitment of women, and reduction of the agricultural labor force by increased mechanization, the skilled labor market will remain tight.

b. Some materials and equipment needed for industrialization of the Satellites are in short supply not only in the Satellites but also in the USSR itself. In particular, the Satellites will lack adequate supplies of high-grade iron ore, copper, lead, zinc, nickel, chromium, molybdenum, tungsten, rubber, sulphur, and tin.

c. The capacity of the machine-building industries will probably remain inadequate to meet the high demand for turbines, generators, petroleum exploration and drilling equipment, complex automatic machine tools, precision instruments, and machinery for manufacturing anti-friction bearings required for the projected program of industrialization.

d. The morale of the workers and of the population in general will remain low.

e. Peasant resistance to compulsory deliveries and to collectivization will limit agricultural output and marketable supplies.

Probable Economic Developments

31. By the end of 1951, the gross national product of the Satellites as a whole had returned approximately to the level of 1938. During the period of this estimate, the average annual rate of growth for the Satellites as a whole will probably be about 5 percent. Industrial production has grown and will continue to grow more rapidly than the other sectors of the economy.[5]

Estimated Indices of Satellite Production in Industry and Agriculture

	1938	1950	1952	Mid-1955
Industry	69	100	137	169
Consumer Goods	122	100	111	114
Producer Goods	60	100	144	184
Agriculture	116	100	91	99

32. Throughout the Satellites as a whole, continued emphasis will be placed upon expanding the heavy industries, which will provide the base for further expansion of industrial capacity and for increasing production of military end-items. The pattern of allocation of the growing national product in the Satellites reveals increasingly large allocations to investment, with consumption kept low. In Poland

[5] The current emphasis upon industrial production in the Satellites is clear. For example, the value of agricultural production in Poland (postwar boundaries) in 1938 was about 50 percent greater than the value of industrial production, but by 1951 the value of industrial production was 10 percent greater than that of agricultural. In Czechoslovakia, the value of industrial production in 1938 was 25 percent greater than that of agricultural; by 1951, it was nearly double.

and Czechoslovakia, for example, gross capital investment by mid-1955 will probably be about one-third above the level of 1950, with personal consumption of goods and services remaining about the same as in 1950. Such an allocation of resources would permit a substantial increase in the defense expenditures of these countries.

Comparison of the Satellites and Western Europe

33. During the period of this estimate the annual rate of economic growth of the Satellites will probably remain somewhat higher than that of the Western European NATO countries. However, the total gross national products of these countries, plus West Germany and Austria, is nearly four times as great as that of the Satellites; their total population is two and a half times as great.

SATELLITE CONTRIBUTIONS TO BLOC STRENGTH: MILITARY

Advanced Bases for the USSR

34. Control of the Satellites has in effect advanced the frontiers of the USSR roughly 500 miles westward in Central Europe and has established for the USSR a buffer zone now garrisoned by an estimated 538,000 Soviet troops, organized into 30 divisions, and 1,317,000 Satellite troops. In addition, the area provides ample advanced air bases, space for a forward air defense system, and naval bases.

35. The bulk of Soviet forces in the Satellite area is concentrated in East Germany and represents the core of Bloc military strength in Europe. Soviet air units based in the Satellites and in the Soviet Zone of Austria have an estimated TO & E strength of about 2,900 aircraft (actual strength is approximately 2,400), of which about 1,400 are jet fighters, and 330 jet light bombers. Although the over-all figure will probably remain approximately unchanged during the period of this estimate, the proportion of jet types will increase. (See Appendix A.)

Satellite Ground Forces

36. The present strength of the Satellite ground forces is estimated at 1,317,000 men organized into approximately 74 line divisions, of which 7 are armored and 10 mechanized. These forces are supplemented by internal security forces which total about 266,000 men. The Satellite armies are improving in quality and have expanded in strength steadily since 1947. We estimate that they will be stabilized at a strength of approximately 1,750,000, organized into about 100 line divisions, by the end of 1954. (See Appendix C.)

37. The reorganization of the Satellite ground forces to conform to the Soviet pattern is nearing completion in all countries except East Germany and Albania. Although the equipment program is well advanced, there will be major shortages in heavy armor and artillery at least until 1955. The Satellites are now manufacturing for their own use Soviet-designed non-combat vehicles, light artillery, small arms, ammunition, and parts, but they will remain dependent upon the USSR for most of their heavier equipment.

38. The Bulgarian Army is believed to be the most loyal and the best trained of the Satellite armies, but it is not yet completely organized and equipped along Soviet lines. The equipment which has been issued to its 14 divisions is almost entirely Soviet, but there are still deficiencies in heavy armor and artillery. Stockpiles of materiel, which include quantities of German weapons, are available. Morale is good. Limited quantities of more recent Soviet weapons such as the JS-3 tank, 100 mm SP gun, and 100 mm field anti-tank gun will probably soon be made available to Bulgaria.

39. Other Satellite forces will approach, and some may attain, the capabilities of the Bulgarian Army by mid-1955. The Hungarian and Polish ground forces have progressively improved in proficiency and in equipment received in the Soviet arms standardization program. However, they will probably still be short of heavy equipment in 1955. The armed forces of Czechoslovakia and Rumania are less advanced in training and equipment than other Satellite armies. East German forces, numbering 100,000 are officially designated as the Garrisoned People's Police (Kasernierte Volkspolizei — KVP) but are de-

veloping into an army. They will need regimental and higher level training and they are still below the level of the other Satellite armies in equipment. Their morale is low and their reliability is questionable. The small Albanian Army will continue to have a negligible combat potential.

40. In the event of a general war the Kremlin probably could not rely on the Satellite armies except for employment in secondary roles. However, the Bulgarian, Hungarian, and — to a lesser degree — the Rumanian armies could be expected to fight effectively against Yugoslavia, Greece, and Turkey, if fully supported logistically. Throughout the period of this estimate, the armed forces of East Germany and Czechoslovakia will remain least trustworthy, from the point of view of the Kremlin.

41. The ground forces of the various Satellite powers do not form a single coordinated organization. There is no reliable evidence of the existence of joint staffs or commands among the ground forces. No combined high-level maneuvers of Satellite or Soviet-Satellite forces have been conducted. However, a trend toward coordination is indicated by Soviet efforts to standardize on Soviet-type equipment and weapons in all the Satellite armed forces. In the event of total mobilization by the Bloc, all higher staff planning would almost certainly be done by the Soviets.

42. Satellite ground force reserves are estimated at approximately 5,000,000. This pool now includes more than 1,000,000 fully trained men and nearly 4,000,000 partially trained. The total will probably not change significantly in the next few years, but the percentage of fully trained men will increase steadily. There is little equipment available for reserves, except in Bulgaria and except for the equipment and stockpiles of Soviet forces now stationed in Eastern Europe.

Satellite Air Forces and Airfields

43. The mission of the Satellite Air Forces is primarily defensive. These air forces in April 1953 had an estimated TO & E strength of 2,900 aircraft (approximately 2,000 actual), and we estimate that in 1955 they will probably have a TO & E strength of 3,900, of which 1,900 will probably be jet fighters. As of 1 April 1953 the European Satellite air forces are estimated at an over-all personnel strength of approximately 79,000. (See Appendix E.) The Kremlin is continuing to develop these forces. The main increases are occurring in Bulgaria, Czechoslovakia, and Poland. Piston fighters are being replaced by jet fighters (there were about 700 jet fighters in April 1953 compared to about 125 in January 1952), and other equipment is being modernized. The jet re-equipment program entered a new phase with the introduction of IL–28 jet light bombers into the Polish Air Forces. During the period of this estimate this phase of the program will probably be extended to some of the other Satellite Air Forces. Almost all operational type aircraft, and parts for their logistical support, are furnished the Satellites by the USSR. The re-equipment program will probably be accelerated if the Korean war should end. Intensive Soviet training of carefully selected Satellite pilots is assuring Soviet control, doctrines, techniques, and tactics.

44. An extensive program of airfield improvement and construction is being carried out in all of the Satellites. There are at least 353 air facilities available to the Soviet forces in the Satellite countries. There are 44 airfields capable of supporting heavy and medium bomber operations on a sustained basis and 30 others on a limited basis, plus 8 potential bomber fields. All of these airfields are capable of supporting sustained jet fighter and light bomber operations. In addition, there are 59 airfields capable of basing lighter combat planes. Most fields are being extended to 6,000-foot runways, and many others even to 8,000 feet or longer. The most extensive airfield construction program has taken place in Eastern Germany with Hungary, Czechoslovakia, and Poland sharing in priority work schedules. The developing network of modern airfields, some of which are equipped with night lighting and radio navigational aids, reflects an integrated and well-coordinated airfield development program. Upon completion, the network will add to both the offensive and defensive capabilities of the Bloc.

45. The Soviet forces stationed in the Satellites are supplied with modern antiaircraft equipment, but intensive development for the Satellites of early warning radar networks, radar-controlled antiaircraft equipment, and civil defense began only in the spring of 1951. Satellite antiaircraft units have been supplied with AA equipment which by modern Western standards is deficient because it lacks effective radar warning as well as control adaptations. There are indications that improved equipment, such as gun-laying radar, and techniques have been developed by the Soviets, but there is no evidence at this time that Satellite forces have benefited from these developments.

Satellite Naval Forces

46. Owing to their small size, their meager equipment, and the unreliability of the personnel, Satellite navies have only minor capabilities. The USSR is placing Soviet naval officers in the command structures, eliminating personnel whose loyalty is suspect, and conducting intensive political indoctrination courses. Satellite naval tactics, techniques, and training are entirely patterned on Soviet concepts. Small numbers of Soviet ships, notably of mine and escort types, have been turned over to the Satellite navies, apparently to be used as auxiliary forces to the Soviet Navy. (See Appendix D.) By mid-1955, the Satellite navies will probably be capable of providing appreciable assistance to the Soviet Navy in such fields as minesweeping, minelaying, escort, and coastal defense duties. Satellite shipbuilding facilities are largely devoted to the construction and repair of merchant vessels.

APPENDIX A

SOVIET FORCES STATIONED IN THE SATELLITES[1] April 1953

COUNTRY	ARMY		SECURITY TROOPS	SOVIET-MANNED AIRCRAFT[2]								
	Number of Troops	Line Divisions		Fighters		Light Bombers		Attack	Transport	Recon.		TOTAL
				Jet	Pis	Jet	Pis			Jet	Pis	
E. Germany	400,000	22	15,000	740	.	250	20	250	90	30	30	1,410
Poland	41,000	2	2,000	220	..	...	...	200	10	..	30	460
Czech	1,000	.	...	...	..	...	...	...	...	..	...	....
Hungary	30,000	2	1,500	110	..	80	130	...	...	..	...	320
Soviet Zone of Austria	33,000	2	2,500	220	..	...	40	...	10	..	30	300
Albania	500	..	...	...	..	...	...	...	...	..	...	....
Rumania	30,000	2	2,000	110	..	...	80	120	60	..	30	400[3]
Bulgaria	2,500	...	1,000	...	..	...	...	...	...	..	...	....
TOTAL	538,000	30	24,000	1,400	..	330	270	570	170	30	120	2,890

[1] Includes units of the Air Force of the Soviet Army and Naval Aviation.

[2] Some of these aircraft may be based in Soviet territory near the Rumanian border.

[3] Approximate figures based on TO & E strength.

APPENDIX B

ESTIMATED SATELLITE PRODUCTION OF SELECTED COMMODITIES 1952–1955

Commodity	Production – 1,000 MT				Satellite Production			
	Satellites		USSR		% of USSR		% of Bloc[1]	
	1952	1955	1952	1955	1952	1955	1952	1955
Ferrous Metals								
Iron ore	3,848	4,623	55,000	75,000	7.0	6.2	6.1	5.3
Pig iron	4,985	6,660	25,100	34,000	19.9	19.6	15.6	15.5
Raw steel	8,387.5	10,255	34,300	43,900	24.5	23.4	19.1	18.4
Metallurgical coke	10,128	11,268	33,000	42,600	30.7	26.5	22.4	19.9
Rolled steel	5,985	7,397	25,100	32,000	23.8	23.1	18.6	18.1
Manganese ore	327.6	346.8	4,200	5,500	7.8	6.3	7.2	5.9
Chromite (MT)	100,700	146,000	650,000	685,000	15.5	21.3	13.4	17.6
Nonferrous Metals								
Primary Copper	15.8	53	287	460	5.5	11.5	5.1	10.1
Secondary Copper	27	27	39	53	69.2	50.9	38.6	31.8
Refined Lead	70.7	101	117	210	60.4	37.4	35.9	26.3
Refined Zinc	132	217	130	250	101.5	86.8	49.4	45.8
Antimony	2.5	3.5	3.0	3.75	83.3	93.3	13.9	19.7
Bauxite	1,220	1,625	625	790	195.2	205.7	66.1	67.3
Primary Aluminum	27	135.5	220	546	12.2	24.8	10.9	19.9
Secondary Aluminum	9	14	72.5	120	12.4	11.7	11.0	10.4
Fluorspar	38	45	160	205	23.8	22.0	18.7	17.6
Magnesium (MT)	1,200	13,000	....	....	..	..	3.3	19.1
Coal								
Anthracite & Bituminous	110,025	129,450	220,500	260,000	49.9	49.8	29.5	29.6
Lignite	242,904	312,075	82,500	100,000	294.4	312.1	74.6	75.7
Petroleum								
Crude Petroleum	11,576	11,775	44,000	52,000	26.3	22.6	20.7	18.3
Liquid Fuels (from synthetics & shale oils)	1,610	2,215	300	850	536.7	260.6	80.9	68.8
Natural & Synthetic Petroleum Products	11,720	12,460	41,580	49,590	28.2	25.1	21.9	19.8
Natural Gas (Million M^3)	4,340	3,705	5,500	8,800	78.9	42.1	44.1	29.6
Chemicals								
Ammonia (Synthetic)	382	N.A.	590	733	64.7	N.A.	39.3	N.A.
Nitric Acid (100%)	314.5	625	1,172	1,211	26.8	51.6	21.2	34.0
Sulphuric Acid	1,002	N.A.	3,627	4,450	27.6	N.A.	21.6	N.A.
Toluol	11.4	N.A.	56	88	20.4	N.A.	16.9	N.A.
Chlorine	268	314	261	350	102.7	89.7	50.7	47.3
Calcium Carbide	957.7	N.A.	300	410	319.2	N.A.	76.1	N.A.
Caustic Soda	386	N.A.	333	496	115.9	N.A.	53.7	N.A.
Crude Benzol	107.1	N.A.	305	483	35.1	N.A.	26.0	N.A.
Refined Benzol	137.4	N.A.	223	360	61.6	N.A.	37.6	N.A.
Refined Phenol	4.9	N.A.	10.6	16.8	46.2	N.A.	31.6	N.A.
Synthetic Rubber	65.3	88	187	260	34.9	33.8	25.9	25.3
Reclaimed Rubber	15.5	N.A.	55	72	281.8	N.A.	27.0	N.A.
Rubber Tires (1,000 units)	2.84	4.98	10.0	13.2	28.4	37.7	22.1	27.4

[1] Including Communist China.

Commodity	Production – 1,000 MT				Satellite Production			
	Satellites		USSR		% of USSR		% of Bloc[1]	
	1952	1955	1952	1955	1952	1955	1952	1955
Agricultural Products								
Bread Grains (Million MT)	19.92	20.6	61.29	62.35	32.5	33.0	19.2	19.5
Other Grains (Million MT)	14.22	18.66	29.91	26.15	47.5	71.4	10.8	14.0
Potatoes	40,026.6	53,304	78,880	90,000	50.7	59.2	27.0	30.8
Sugar	1,926.4	3,018	2,267	2,600	85.0	116.1	42.2	50.1
Meat	2,240	2,158	3,485	3,630	64.3	59.4	23.6	21.2
Animal Fats	716	693	851	910	84.1	76.2	29.7	28.3
Vegetable Oils	234.7	335	885	1,011	26.5	33.1	8.4	11.0
Wool (Grease base)	50.41	58.47	150.9	165.0	33.4	35.4	21.4	22.7
Rayon	142.8	166.8	41.2	52.0	346.6	320.8	77.6	76.2
Heavy Industrial Products								
Antifriction Bearings (000 units)	17.1	27.7	115	140	14.9	19.8	12.9	16.5
Tractors (000 units)	12.3	29.0	121	126	10.2	23.0	9.2	18.7
Trucks (000 units)	19.3	49.0	410	423	4.7	11.6	4.5	10.4
Passenger Cars (units)	41.9	N.A.	35	50	119.7		54.0	N.A.
Steam Locomotives (units)	1,142	1,322	2,250	2,390	50.8	55.3	33.7	35.6
Electric Locomotives (units)	61	60	280	450	21.8	13.3	17.9	11.7
Freight Cars (2 axleU.)	52,500	62,400	137,500	147,000	38.2	42.4	27.6	29.8
Railway Passenger Cars (units)	1,855	2,090	2,800	2,960	66.3	70.6	39.8	41.4
Merchant Ships (1000 GRT)	8.6	N.A.	380	410	28.6	...	22.2	N.A.
Machine Tools (units)	58,250	N.A.	80,340	N.A.	72.5	...	42.0	N.A.
Military End-Items								
Artillery (units)	500	600	13,000	13,000	3.8	4.6	N.A.	N.A.
Construction Materials								
Flat Glass (Million M²)	29.0	40.2	90	111	32.2	36.2	24.4	26.6
Gypsum	488	754	1,900	2,400	25.7	31.4	20.4	23.5
Unglazed Bricks (Millions)	5,310	7,056	15,990	22,080	33.2	32.0	24.9	24.2
Artificial Abrasives	28.4	43	70	80	40.6	53.7	N.A.	N.A.
Cement (Hydraulic)	8,020	12,838	14,500	23,000	55.3	55.8	33.0	35.8
Electric Power (Million KWH)	56,370	79,271	117,000	170,000	48.1	46.6	N.A.	N.A.
Electric Equipment[2]								
Electron Tubes (millions of 1950 rubles)	246	747	718	1,170	34.2	63.8	N.A.	N.A.
Turbines (000 KW)	1,485	2,125	3,600	5,125	41.2	41.4	28.9	28.3
Transformers (000 kilovolt-ampers)	3,960	5,637	6,029	8,583	65.6	65.6	N.A.	N.A.
Wire and Cable (MT of copper)	51,300	87,202	70,060	101,089	73.2	86.2	N.A.	N.A.
Motors (000 KW)	8,612	11,746	15,608	22,005	55.1	53.3	N.A.	N.A.
Generators (000 KW)	1,688	2,404	4,241	6,038	39.8	39.8	N.A.	N.A.

[1] Including Communist China.
[2] Range of error: ±20%.

APPENDIX C

THE DEVELOPMENT OF SATELLITE GROUND FORCES 1953-1955

Country	April 1953 Total Army	Total Security Troops	Percent of Total Population (Army & Security)	DIVISIONS Armd	Mech	Rifle	Total	Trained & Partially Trained Reserves	Summer 1955 Total Army	Total Security Troops	Percent Increase (Army & Security)	DIVISIONS Armd	Mech	Rifle	Total
E. Germany	100,000	25,000	0.68	..	1	3	3[1]	11,000	250,000	25,000	120	..	4	8	12
Poland	330,000	65,000	1.6	1	4	12	17	1,535,000	350,000	65,000	5	3	4	15	22
Czechoslovakia	185,000	35,000	1.7	2	4	8	14	1,195,000	275,000	40,000	43	3	4	8	15
Albania	40,000	10,000	3.9	..	..	3	3	80,000	40,000	10,000	...	..	..	3	3
Hungary	185,000	35,000	2.3	1	1	8	10	450,000	250,000	37,500	31	1	2	12	15
Rumania	267,000	56,000	2.0	1	..	12	13	1,275,000	350,000	56,000	26	1	2	12	15
Bulgaria	210,000	40,000	3.4	2	..	12	14	500,000	225,000	45,000	4	2	2	12	16
TOTAL	1,317,000	266,000 (Mean Average)	2.23	7	10	57	74	5,046,000	1,740,000	278,500 (Mean Average)	32.7	10	18	70	98

[1] In addition, E. Germany has 19 Cadre units of regimental size.

TOP SECRET

APPENDIX D

ESTIMATED SATELLITE NAVAL FORCES
April 1953

Country	Destroyer	Submarines	Patrol	Mine	Amphibious LCU	Auxiliary	Personnel
E. Germany	...	...	10 [1]	58 [2]	...	31 [3]	6,000
Poland	1	3	16 [4]	15	12	12	8,800
Albania	...	...	14	3	...	14	800
Rumania	4	3 [5]	20 [1]	4 [6]	...	28	7,500
Bulgaria	1	...	31	20	...	3	4,900

[1] All under construction.
[2] 52 of which are under construction.
[3] 2 of which are under construction.
[4] 4 under construction.
[5] These include two old submarines held by the USSR and claimed by Rumania. We believe these have been returned to the Rumanians in the last few months.

APPENDIX E

ESTIMATED SATELLITE AIR FORCES
April 1953

COUNTRY	FIGHTERS						BOMBERS				TRANS-PORT		RECON-NAIS-SANCE		TOTAL		PERSONNEL
	Jet		Piston		Attack		Jet		Piston								
	TO&E	Actual	TO&E	Actual	TO&E	Actual	TO&E	Actual	TO&E	Actual	TO&E	Actual	TO&E	Actual	TO&E	Actual	
E. Germany[1]	...	...	...	...	...	...	..	..	...	...	...	...	...	...	...	...	6,500
Poland[2]	480	270	100	40	150	140	40	20	100	90	20	20	40	30	930[3]	610[3]	20,300
Czech.	180	120	50	40	130	140	..	..	..	..	30	30	60	50	450	380	14,000
Hungary	110	100	50	50	80	90	..	..	80	40	30	20	..	..	350	300	12,000
Albania	..	..	10	10	..	..	..	..	..	..	..	..	..	..	10	10	200
Rumania	150	80	100	70	80	40	..	..	80	30	30	20	30	20	470	260	12,000
Bulgaria[3]	260	130	100	60	130	130	..	..	130	70[4]	30	30	40	20	690	440	14,000
Total	1,180	700	410	270	570	540	40	20	390	230	140	120	170	120	2,900	2,000	79,000

[1] The newly formed East German Air Force is now considered to have an estimated TO&E strength of 150 Piston Engines fighters and an estimated actual strength of 75 trainer-type aircraft. Conversion to operational type aircraft may be directly to jets rather than piston fighters.

[2] Includes Polish Naval Air Arm consisting of 50 TO&E (10 actual) Piston fighter, 20 TO&E (10 actual) attack planes, and 20 TO&E (10 actual) light bomber (Piston).

[3] Does not include approximately 60 single engine trainer types carried in so-called "night light bomber" units.

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